

## **REMARKS**

Claims 1, 2, 4-9, 11-13 and 18-20 stand rejected under § 103 on the basis of Veerasamy '477, Veerasamy '225 and Takahashi JP '836. Applicants traverse this rejection because the references do not disclose or suggest the specific combinations of controlled hardness and controlled adsorption of a liquid lubricant made by a nitrogen ion beam, as now defined in the independent claims as amended.

The claims have been amended to recite that the carbonaceous protective layer is a product of a nitrogen (N<sub>2</sub>) ion beam-assisted Filtered Cathodic Arc process and has a combination of controlled hardness of at least 18 GPa and controlled adsorption of a liquid lubricant evaluated from a contact angle to water of not greater than 35°. The claim amendments are supported in, for example, claims 5 and 6 (now cancelled) and the description on page 6, lines 17-21 and page 18, lines 28-35 of the specification.

Veerasamy '477 does not teach a specific combination of controlled hardness and controlled adsorption of a liquid lubricant, because according to Veerasamy '477, the carbonaceous protective layer is formed by an FCA process in the presence of nitrogen gas flow, i.e., without relying upon a nitrogen ion beam, as in the present invention. The present claims are patentable even if they are considered product by process claims, because it would not have been obvious to make the claimed protective layer with a nitrogen ion beam.

The claims are allowable over Veerasamy '225 and JP '836 for the reasons given in earlier amendments.

For the foregoing reasons, applicants believe that this case is in condition for allowance, which is respectfully requested. The examiner should call Applicants' attorney if an interview would expedite prosecution.

Respectfully submitted,

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August 16, 2004

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